

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

16
Fsc

SNOW SURVEYS AND IRRIGATION WATER FORECASTS

for the

COLORADO RIVER DRAINAGE BASIN

April 1, 1942

* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *

Issued by the
United States Department of Agriculture
Soil Conservation Service
Division of Irrigation
In Cooperation with
The Colorado Agricultural Experiment Station
Colorado State College
Fort Collins, Colorado

April 10, 1942

SHOW RESULTS AND RECOMMENDATIONS FOR FURTHER WORK

for the

COOPERATING HIVE RESEARCH ASSOCIATION

April 1, 1942

Issued by the
United States Department of Agriculture
Soil Conservation Service
Division of Investigation
In Cooperation with
The Colorado Agricultural Experiment Station
Colorado State College
Fort Collins, Colorado

April 10, 1942

SNOW SURVEYS AND IRRIGATION WATER FORECASTS

for

COLORADO RIVER BASIN

April 1, 1942

The following data pertaining to snow surveys and irrigation water-supply forecasts are provided by the Division of Irrigation, Soil Conservation Service, U. S. Department of Agriculture, in cooperation with State departments, other federal bureaus and local organizations. The snow measurements are made principally by field personnel of the following Federal Government organizations: Forest Service, National Park Service, Geological Survey, Bureau of Reclamation, Indian Service; and the Utah Agricultural Experiment Station. This work is otherwise conducted cooperatively with the State Engineers of Utah and Colorado, State Planning Board of Wyoming, U. S. Geological Survey, Utah and Colorado Agricultural Experiment Stations, and various municipalities, irrigation associations, power companies, and others. Precipitation records are supplied by the U. S. Weather Bureau.

SUMMARY OF APRIL 1 SNOW SURVEYS AND COMPARISON OF DATA WITH THAT OF PREVIOUS YEARS BY WATERSHEDS

WATERSHEDS	Snow Depth			Water Content			Number Courses in Average	Snow Density			1942 Water Content in percent of	
	Seven Year Avg.*	1941	1942	Seven Year Avg.*	1941	1942		Seven year Avg.*	1941	1942	Seven Year Avg.*	1941
	In.	In.	In.	In.	In.	In.		Percent	Percent	Percent		
COLORADO RIVER												
Green River	40.3	37.3	43.0	12.4	11.1	11.5	26	31	30	27	93	104
Colorado River**	43.6	38.7	46.0	13.1	11.4	13.0	20	30	29	28	99	114
Yampa River	56.7	47.0	60.9	19.0	14.9	18.0	5	34	32	30	95	121
White River	51.2	51.1	54.8	17.6	16.6	18.6	2	34	32	34	106	112
Gunnison River	50.9	53.5	56.0	16.1	17.2	16.6	11	32	32	30	103	97
Dolores River	38.0	39.9	40.8	11.9	13.4	11.8	4	31	34	29	99	88
San Juan River	46.0	59.4	44.8	16.2	20.2	15.4	7	35	34	34	95	76
Gila River	0.6	2.4	0.3	0.2	0.9	0.1	9	33	37	33	50	11
Colorado River***	43.5	43.8	52.2	14.5	15.0	16.3	7	33	34	31	112	109
Virgin River	44.5	48.1	45.5	15.8	18.6	17.2	5	35	39	38	109	92

*Some for shorter periods

**Above Grand Junction, Colorado

***Green to Virgin River

STATEMENT OF THE BOARD OF DIRECTORS OF THE NATIONAL ASSOCIATION OF REALTORS

1911

STATEMENT OF THE BOARD OF DIRECTORS OF THE NATIONAL ASSOCIATION OF REALTORS

NAME	AGE	SEX	MARITAL STATUS	EDUCATION	OCCUPATION	SALARY	DIVIDENDS	TOTAL INCOME	TAXES	TOTAL	REMARKS
1	35	M	M	HS	REALTOR	1000	50	1050	100	950	
2	40	M	M	HS	REALTOR	1200	60	1260	120	1140	
3	38	M	M	HS	REALTOR	1100	55	1155	110	1045	
4	42	M	M	HS	REALTOR	1300	70	1370	130	1240	
5	36	M	M	HS	REALTOR	1050	58	1108	105	1003	
6	45	M	M	HS	REALTOR	1400	80	1480	140	1340	
7	39	M	M	HS	REALTOR	1150	62	1212	115	1097	
8	41	M	M	HS	REALTOR	1250	68	1318	125	1193	
9	37	M	M	HS	REALTOR	1080	56	1136	108	1028	
10	43	M	M	HS	REALTOR	1350	75	1425	135	1290	
11	34	M	M	HS	REALTOR	1020	52	1072	102	970	
12	44	M	M	HS	REALTOR	1450	85	1535	145	1390	
13	33	M	M	HS	REALTOR	980	48	1028	98	930	
14	46	M	M	HS	REALTOR	1500	90	1590	150	1440	
15	32	M	M	HS	REALTOR	950	45	995	95	900	
16	47	M	M	HS	REALTOR	1550	95	1645	155	1490	
17	31	M	M	HS	REALTOR	920	42	962	92	870	
18	48	M	M	HS	REALTOR	1600	100	1700	160	1540	
19	30	M	M	HS	REALTOR	900	40	940	90	850	
20	49	M	M	HS	REALTOR	1650	105	1755	165	1590	
21	29	M	M	HS	REALTOR	880	38	918	88	830	
22	50	M	M	HS	REALTOR	1700	110	1810	170	1640	
23	28	M	M	HS	REALTOR	850	35	885	85	800	
24	51	M	M	HS	REALTOR	1750	115	1865	175	1690	
25	27	M	M	HS	REALTOR	820	32	852	82	770	
26	52	M	M	HS	REALTOR	1800	120	1920	180	1740	
27	26	M	M	HS	REALTOR	800	30	830	80	750	
28	53	M	M	HS	REALTOR	1850	125	1975	185	1790	
29	25	M	M	HS	REALTOR	780	28	808	78	730	
30	54	M	M	HS	REALTOR	1900	130	2030	190	1840	
31	24	M	M	HS	REALTOR	750	25	775	75	700	
32	55	M	M	HS	REALTOR	1950	135	2085	195	1890	
33	23	M	M	HS	REALTOR	720	22	742	72	670	
34	56	M	M	HS	REALTOR	2000	140	2140	200	1940	
35	22	M	M	HS	REALTOR	700	20	720	70	650	
36	57	M	M	HS	REALTOR	2050	145	2195	205	1990	
37	21	M	M	HS	REALTOR	680	18	698	68	630	
38	58	M	M	HS	REALTOR	2100	150	2250	210	2040	
39	20	M	M	HS	REALTOR	650	15	665	65	600	
40	59	M	M	HS	REALTOR	2150	155	2305	215	2090	
41	19	M	M	HS	REALTOR	620	12	632	62	570	
42	60	M	M	HS	REALTOR	2200	160	2360	220	2140	
43	18	M	M	HS	REALTOR	600	10	610	60	550	
44	61	M	M	HS	REALTOR	2250	165	2415	225	2190	
45	17	M	M	HS	REALTOR	580	8	588	58	530	
46	62	M	M	HS	REALTOR	2300	170	2470	230	2240	
47	16	M	M	HS	REALTOR	550	5	555	55	500	
48	63	M	M	HS	REALTOR	2350	175	2525	235	2290	
49	15	M	M	HS	REALTOR	520	3	523	52	470	
50	64	M	M	HS	REALTOR	2400	180	2580	240	2340	
51	14	M	M	HS	REALTOR	500	2	502	50	450	
52	65	M	M	HS	REALTOR	2450	185	2635	245	2390	
53	13	M	M	HS	REALTOR	480	1	481	48	430	
54	66	M	M	HS	REALTOR	2500	190	2690	250	2440	
55	12	M	M	HS	REALTOR	450	0	450	45	400	
56	67	M	M	HS	REALTOR	2550	195	2745	255	2490	
57	11	M	M	HS	REALTOR	420	0	420	42	370	
58	68	M	M	HS	REALTOR	2600	200	2800	260	2540	
59	10	M	M	HS	REALTOR	400	0	400	40	350	
60	69	M	M	HS	REALTOR	2650	205	2855	265	2590	
61	9	M	M	HS	REALTOR	380	0	380	38	330	
62	70	M	M	HS	REALTOR	2700	210	2910	270	2640	
63	8	M	M	HS	REALTOR	350	0	350	35	300	
64	71	M	M	HS	REALTOR	2750	215	2965	275	2690	
65	7	M	M	HS	REALTOR	320	0	320	32	280	
66	72	M	M	HS	REALTOR	2800	220	3020	280	2740	
67	6	M	M	HS	REALTOR	300	0	300	30	260	
68	73	M	M	HS	REALTOR	2850	225	3075	285	2790	
69	5	M	M	HS	REALTOR	280	0	280	28	250	
70	74	M	M	HS	REALTOR	2900	230	3130	290	2840	
71	4	M	M	HS	REALTOR	260	0	260	26	230	
72	75	M	M	HS	REALTOR	2950	235	3185	295	2890	
73	3	M	M	HS	REALTOR	240	0	240	24	210	
74	76	M	M	HS	REALTOR	3000	240	3240	300	2940	
75	2	M	M	HS	REALTOR	220	0	220	22	190	
76	77	M	M	HS	REALTOR	3050	245	3295	305	2990	
77	1	M	M	HS	REALTOR	200	0	200	20	170	
78	78	M	M	HS	REALTOR	3100	250	3350	310	3040	
79	0	M	M	HS	REALTOR	180	0	180	18	150	
80	79	M	M	HS	REALTOR	3150	255	3405	315	3090	
81	0	M	M	HS	REALTOR	160	0	160	16	130	
82	80	M	M	HS	REALTOR	3200	260	3460	320	3140	
83	0	M	M	HS	REALTOR	140	0	140	14	110	
84	81	M	M	HS	REALTOR	3250	265	3515	325	3190	
85	0	M	M	HS	REALTOR	120	0	120	12	90	
86	82	M	M	HS	REALTOR	3300	270	3570	330	3240	
87	0	M	M	HS	REALTOR	100	0	100	10	70	
88	83	M	M	HS	REALTOR	3350	275	3625	335	3290	
89	0	M	M	HS	REALTOR	80	0	80	8	50	
90	84	M	M	HS	REALTOR	3400	280	3680	340	3340	
91	0	M	M	HS	REALTOR	60	0	60	6	30	
92	85	M	M	HS	REALTOR	3450	285	3735	345	3390	
93	0	M	M	HS	REALTOR	40	0	40	4	20	
94	86	M	M	HS	REALTOR	3500	290	3790	350	3440	
95	0	M	M	HS	REALTOR	20	0	20	2	10	
96	87	M	M	HS	REALTOR	3550	295	3845	355	3490	
97	0	M	M	HS	REALTOR	10	0	10	1	5	
98	88	M	M	HS	REALTOR	3600	300	3900	360	3540	
99	0	M	M	HS	REALTOR	0	0	0	0	0	
100	89	M	M	HS	REALTOR	3650	305	3955	365	3590	
101	0	M	M	HS	REALTOR	0	0	0	0	0	
102	90	M	M	HS	REALTOR	3700	310	4010	370	3640	
103	0	M	M	HS	REALTOR	0	0	0	0	0	
104	91	M	M	HS	REALTOR	3750	315	4065	375	3690	
105	0	M	M	HS	REALTOR	0	0	0	0	0	
106	92	M	M	HS	REALTOR	3800	320	4120	380	3740	
107	0	M	M	HS	REALTOR	0	0	0	0	0	
108	93	M	M	HS	REALTOR	3850	325	4175	385	3790	
109	0	M	M	HS	REALTOR	0	0	0	0	0	
110	94	M	M	HS	REALTOR	3900	330	4230	390	3840	
111	0	M	M	HS	REALTOR	0	0	0	0	0	
112	95	M	M	HS	REALTOR	3950	335	4285	395	3890	
113	0	M	M	HS	REALTOR	0	0	0	0	0	
114	96	M	M	HS	REALTOR	4000	340	4340	400	3940	
115	0	M	M	HS	REALTOR	0	0	0	0	0	
116	97	M	M	HS	REALTOR	4050	345	4395	405	3990	
117	0	M	M	HS	REALTOR	0	0	0	0	0	
118	98	M	M	HS	REALTOR	4100	350	4450	410	4040	
119	0	M	M	HS	REALTOR	0	0	0	0	0	
120	99	M	M	HS	REALTOR	4150	355	4505	415	4090	
121	0	M	M	HS	REALTOR	0	0	0	0	0	
122	100	M	M	HS	REALTOR	4200	360	4560	420	4140	
123	0	M	M	HS	REALTOR	0	0	0	0	0	
124	101	M	M	HS	REALTOR	4250	365	4615	425	4190	
125	0	M	M	HS	REALTOR	0	0	0	0	0	
126	102	M	M	HS	REALTOR	4300	370	4670	430	4240	
127	0	M	M	HS	REALTOR	0	0	0	0	0	
128	103	M	M	HS	REALTOR	4350	375	4725	435	4290	
129	0	M	M	HS	REALTOR	0	0	0	0	0	
130	104	M	M	HS	REALTOR	4400	380	4780	440	4340	
131	0	M	M	HS	REALTOR	0	0	0	0	0	
132	105	M	M	HS	REALTOR	4450	385	4835	445	4390	
133	0	M	M	HS	REALTOR	0	0	0	0	0	
134	106	M	M	HS	REALTOR	4500	390	4890	450	4440	
135	0	M	M	HS	REALTOR	0	0	0	0	0	
136	107	M	M	HS	REALTOR	4550	395	4945			

PRECIPITATION DATA (Based on incomplete returns)

WATERSHED	STATE	Precipitation October 1 to March 31 Inches	Departure from Normal Inches	Precipitation March Inches	Departure from Normal Inches
Colorado	Colorado	11.50	+2.74	1.86	-0.08
Green	Wyoming	5.26	+1.94	0.56	-0.13
San Juan	New Mexico	6.07	+0.93	0.74	-0.16
Gila	Arizona	7.56	-0.23	0.56	-0.71
Gila	New Mexico	4.63	-0.63	0.14	-0.66

Precipitation on the watershed of the Colorado River and its tributaries in Colorado, Wyoming, New Mexico and Arizona was below normal during March. The greatest deficiency for the month occurred on the Gila drainage. The accumulated precipitation since October 1 is above normal except on the watershed of the Gila in Arizona and New Mexico.

WATER SUPPLY OUTLOOK

Colorado River and Tributaries in Colorado. - On the main Colorado River watershed, above Grand Junction, the snow depth is slightly more than the past seven-year average. The water content is about the same as the seven-year average and 14 per cent more than last year at this time. The April-July runoff for 1942 is expected to be about 1,400,000 acre-feet as based on the flow at Glenwood Springs, or approximately 80 percent of the normal discharge of this stream. The water content of the snow on the headwaters of the Yampa and White Rivers is in excess of the amount observed last year at this time. The expected flow in these streams will be normal this coming season: Yampa, at Steamboat Springs, 270,000 acre-feet, and the White, at Meeker, 275,000, for the period April to July, inclusive.

The runoff in the Gunnison this coming season will be normal, with expected high water in early June. The water content of the snow over this drainage now equals the past seven-year average. On the Grand Mesa, area tributary to this stream, the snow depth on Trickle Divide was found to be nearly 100 inches, containing 30 inches

ANALYSE OF RESULTS (number of subjects in each)

Subject	Pre-treatment	Post-treatment	Control	Experimental	Remarks
1	10.0	10.0	10.0	10.0	observed
2	11.0	11.0	11.0	11.0	observed
3	12.0	12.0	12.0	12.0	observed
4	13.0	13.0	13.0	13.0	observed
5	14.0	14.0	14.0	14.0	observed
6	15.0	15.0	15.0	15.0	observed
7	16.0	16.0	16.0	16.0	observed
8	17.0	17.0	17.0	17.0	observed
9	18.0	18.0	18.0	18.0	observed
10	19.0	19.0	19.0	19.0	observed
11	20.0	20.0	20.0	20.0	observed
12	21.0	21.0	21.0	21.0	observed
13	22.0	22.0	22.0	22.0	observed
14	23.0	23.0	23.0	23.0	observed
15	24.0	24.0	24.0	24.0	observed
16	25.0	25.0	25.0	25.0	observed
17	26.0	26.0	26.0	26.0	observed
18	27.0	27.0	27.0	27.0	observed
19	28.0	28.0	28.0	28.0	observed
20	29.0	29.0	29.0	29.0	observed
21	30.0	30.0	30.0	30.0	observed
22	31.0	31.0	31.0	31.0	observed
23	32.0	32.0	32.0	32.0	observed
24	33.0	33.0	33.0	33.0	observed
25	34.0	34.0	34.0	34.0	observed
26	35.0	35.0	35.0	35.0	observed
27	36.0	36.0	36.0	36.0	observed
28	37.0	37.0	37.0	37.0	observed
29	38.0	38.0	38.0	38.0	observed
30	39.0	39.0	39.0	39.0	observed
31	40.0	40.0	40.0	40.0	observed
32	41.0	41.0	41.0	41.0	observed
33	42.0	42.0	42.0	42.0	observed
34	43.0	43.0	43.0	43.0	observed
35	44.0	44.0	44.0	44.0	observed
36	45.0	45.0	45.0	45.0	observed
37	46.0	46.0	46.0	46.0	observed
38	47.0	47.0	47.0	47.0	observed
39	48.0	48.0	48.0	48.0	observed
40	49.0	49.0	49.0	49.0	observed
41	50.0	50.0	50.0	50.0	observed
42	51.0	51.0	51.0	51.0	observed
43	52.0	52.0	52.0	52.0	observed
44	53.0	53.0	53.0	53.0	observed
45	54.0	54.0	54.0	54.0	observed
46	55.0	55.0	55.0	55.0	observed
47	56.0	56.0	56.0	56.0	observed
48	57.0	57.0	57.0	57.0	observed
49	58.0	58.0	58.0	58.0	observed
50	59.0	59.0	59.0	59.0	observed
51	60.0	60.0	60.0	60.0	observed
52	61.0	61.0	61.0	61.0	observed
53	62.0	62.0	62.0	62.0	observed
54	63.0	63.0	63.0	63.0	observed
55	64.0	64.0	64.0	64.0	observed
56	65.0	65.0	65.0	65.0	observed
57	66.0	66.0	66.0	66.0	observed
58	67.0	67.0	67.0	67.0	observed
59	68.0	68.0	68.0	68.0	observed
60	69.0	69.0	69.0	69.0	observed
61	70.0	70.0	70.0	70.0	observed
62	71.0	71.0	71.0	71.0	observed
63	72.0	72.0	72.0	72.0	observed
64	73.0	73.0	73.0	73.0	observed
65	74.0	74.0	74.0	74.0	observed
66	75.0	75.0	75.0	75.0	observed
67	76.0	76.0	76.0	76.0	observed
68	77.0	77.0	77.0	77.0	observed
69	78.0	78.0	78.0	78.0	observed
70	79.0	79.0	79.0	79.0	observed
71	80.0	80.0	80.0	80.0	observed
72	81.0	81.0	81.0	81.0	observed
73	82.0	82.0	82.0	82.0	observed
74	83.0	83.0	83.0	83.0	observed
75	84.0	84.0	84.0	84.0	observed
76	85.0	85.0	85.0	85.0	observed
77	86.0	86.0	86.0	86.0	observed
78	87.0	87.0	87.0	87.0	observed
79	88.0	88.0	88.0	88.0	observed
80	89.0	89.0	89.0	89.0	observed
81	90.0	90.0	90.0	90.0	observed
82	91.0	91.0	91.0	91.0	observed
83	92.0	92.0	92.0	92.0	observed
84	93.0	93.0	93.0	93.0	observed
85	94.0	94.0	94.0	94.0	observed
86	95.0	95.0	95.0	95.0	observed
87	96.0	96.0	96.0	96.0	observed
88	97.0	97.0	97.0	97.0	observed
89	98.0	98.0	98.0	98.0	observed
90	99.0	99.0	99.0	99.0	observed
91	100.0	100.0	100.0	100.0	observed

ANALYSE OF RESULTS

The results of the analysis of the data obtained from the 100 subjects in the study are presented in the following table. The table shows the mean values for the control and experimental groups for each of the 100 subjects. The mean values for the control group are shown in the first column, and the mean values for the experimental group are shown in the second column. The mean values for the control group are generally higher than the mean values for the experimental group, indicating that the experimental group had a lower level of the measured variable. This is consistent with the hypothesis that the treatment had a beneficial effect on the measured variable. The standard deviation for the control group is also shown in the third column, and the standard deviation for the experimental group is shown in the fourth column. The standard deviation for the control group is generally higher than the standard deviation for the experimental group, indicating that the experimental group had a more uniform level of the measured variable. This is also consistent with the hypothesis that the treatment had a beneficial effect on the measured variable. The correlation coefficient for the control group is shown in the fifth column, and the correlation coefficient for the experimental group is shown in the sixth column. The correlation coefficient for the control group is generally higher than the correlation coefficient for the experimental group, indicating that the experimental group had a lower level of the measured variable. This is consistent with the hypothesis that the treatment had a beneficial effect on the measured variable. The results of the analysis of the data obtained from the 100 subjects in the study are presented in the following table. The table shows the mean values for the control and experimental groups for each of the 100 subjects. The mean values for the control group are shown in the first column, and the mean values for the experimental group are shown in the second column. The mean values for the control group are generally higher than the mean values for the experimental group, indicating that the experimental group had a lower level of the measured variable. This is consistent with the hypothesis that the treatment had a beneficial effect on the measured variable. The standard deviation for the control group is also shown in the third column, and the standard deviation for the experimental group is shown in the fourth column. The standard deviation for the control group is generally higher than the standard deviation for the experimental group, indicating that the experimental group had a more uniform level of the measured variable. This is also consistent with the hypothesis that the treatment had a beneficial effect on the measured variable. The correlation coefficient for the control group is shown in the fifth column, and the correlation coefficient for the experimental group is shown in the sixth column. The correlation coefficient for the control group is generally higher than the correlation coefficient for the experimental group, indicating that the experimental group had a lower level of the measured variable. This is consistent with the hypothesis that the treatment had a beneficial effect on the measured variable.

WATER SUPPLY OUTLOOK - Cont'd.

of water. Because of the heavy fall precipitation, the mountain soils were well saturated and some fear is expressed as to the safety of a few earth-filled reservoir dams. Conditions on the Dolores are somewhat less promising. The water content of the snow now is equal to the past seven-year average and about 12 percent under that of last April. The coming summer runoff will be normal and less than in 1941. Soil moisture conditions throughout the western part of Colorado are now good to excellent, due to an abundant autumn rainfall over this area. Present stream flow is normal or better but somewhat retarded because of cold weather in the high mountain country. Storage in irrigation reservoirs over the Western Slope is now well advanced, with full assurance of filling before the irrigation season starts. Taylor Park Reservoir now stores 75,000 acre-feet, which is nearly three-quarters of total capacity.

San Juan River.— The present water supply outlook for the San Juan indicates less runoff this coming season in comparison with that of 1941. The water content of the snow cover on this drainage is only about three-quarters of that of a year ago but practically in line with the past seven-year average. On the Upper San Juan snow course at the headwaters of this stream, near the top of Wolf Creek Pass, the snow depth is 93 inches and contains 33 inches of water. For the Animas River, at Durango, the April-July runoff this season will not exceed 400,000 acre-feet. In southwestern Colorado the farm lands are in good to excellent condition as regards soil moisture. Stream flow at this time is increasing somewhat, due to melting of the low snow. The winter runoff has been normal. Reservoirs are now well filled, with good assurance of reaching capacity in June. Water is now being released from the Vallecito Reservoir on the Pine River.

Gila and Salt Rivers.— The snow cover over these drainages is confined to the high elevations. All snow courses in the vicinity of Alpine and McNary, in Arizona, are bare. At present there is 3 to 10 inches of snow on Bradshaw and Mingus mountains at the higher elevations and the runoff from this section is expected not to exceed one-quarter of that of last year. The outlook for the coming season's water supply in the Gila and Salt Rivers is not promising as based on snow resources. Soil moisture conditions, in agricultural areas, are generally good to fair; streams are running clear, in amounts slightly less than a year ago. The aggregate storage in the main reservoirs on Salt River is 1,678,960 acre-feet, as compared with 1,684,650 a year ago. In the San Carlos Reservoir there are 817,800 acre-feet in storage, as compared with 670,000 last year. San Carlos now stands at five-eighths its full capacity.

Green River.— The water content of the snow cover on the headwaters of this stream is identical with that of last year. The April-July runoff will approximate 740,000 acre-feet at Linwood, Utah, or 90 percent of the normal for this period.

NEW YORK COUNTY - COLLEGE

[illegible]

COLORADO RIVER WATERSHED

Summary of Federal and State Cooperative Snow Surveys
Issued April 10, 1942, at Fort Collins, Colorado

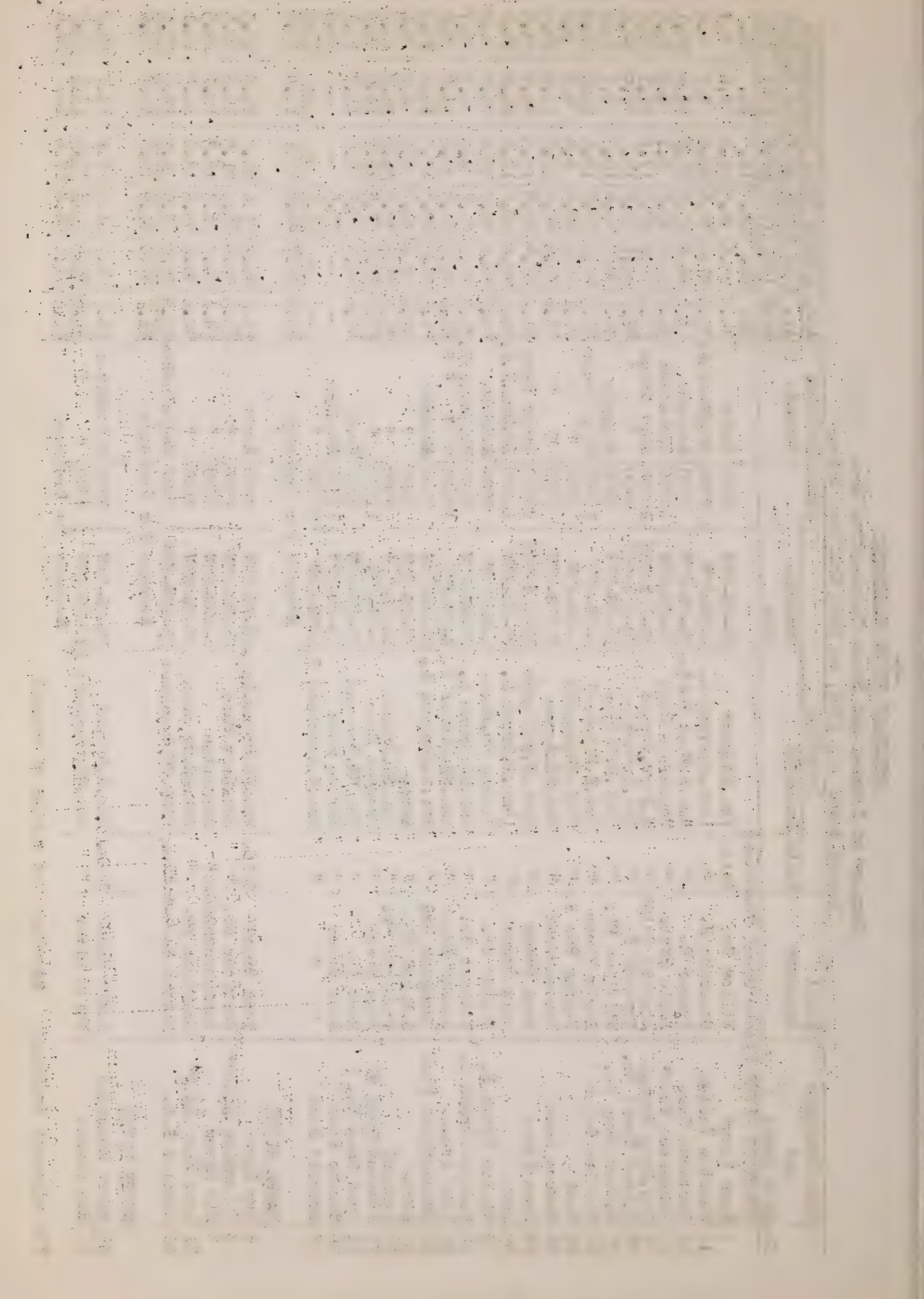
Main Drainage and No. Snow Course	Local Drainage	State	Location		Elev. National Forest	Apr. 1 Snow Cover Measurements			
			Locality	Description		Av. Snow Depth	Av. Snow Depth	Av. Water Content	Av. Water Content
						1941	1942	1941	1942
						In.	In.	In.	In.
GREEN RIVER									
7	East Rim Divide	Wyo.	13mi. SE. Bondurant	32-37N-111W	7950	31.6	32.1	11.4	11.0
23	Dutch Joe R.S.	"	12mi. N. Elkhorn	33-31N-104W	8700	28.4	32.8	7.5	6.5
24	Mulligan Park	"	Fremont Lake	17-35N-108W	8900	27.7	32.2	9.6	7.0
25	Kendall R.S.	"	27mi. NW. Pinedale	23-38N-110W	7900	25.9	24.9	10.4	8.1
26	Loomis Park	"	25mi. NW. "	14-37N-111W	8500	34.0	37.6	14.6	9.8
27	Snyder Basin R.S.	"	22mi. W. Big Piney	15-29N-114W	8040	35.1	33.9	9.6	9.5
28	Piney-LaBarge	"	24mi. W. Big Piney	19-29N-114W	8320	41.2	46.6	14.0	12.5
28	Daniels-Strawberry	Utah	20mi. NE. Provo	17&20-2S-12W	8000	34.0	43.0	14.5	11.1
28	Lost Lake	"	18mi. E. Kamas	4&5-2S-9E	9900	51.4	65.7	23.5	17.7
33	East Portal	"	25mi. E. Provo	36-7S-6E	7600	34.0	39.6	12.8	10.3
33A	E. Port. Strawberry D.	"	24mi. E. Provo	34&35-7S-6E	8000	55.4	56.1	21.0	16.9
34	Hewinta R.S.	"	33mi. SE. Evanston	33-3N-13E	9500	--	41.2	8.1	--
35	Hole-In-Rock	"	47mi. SE. "	13-2N-15E	9150	21.6	35.7	5.4	5.0
36	Lake Fork Mtn.	"	4mi. E. Moon Lake	2&3-2N-5W	10500	40.5	56.5	9.5	9.1
37	Paradise Park	"	25mi. NW. Vernal	7-3N-1E	10500	39.9	52.3	10.4	9.6
38	Mosby Mtn. #1	"	22mi. " "	5-2N-1E	9700	36.5	42.6	9.2	9.9
38A	Mosby Mtn. #2	"	" " "	5-2N-1E	9500	42.1	48.4	9.4	8.7
39	King's Cabin #1	"	13mi. N. Vernal	22-1S-21E	8300	33.3	35.7	8.8	8.9
39A	King's Cabin #2	"	" " "	2&26-1S-21E	8600	31.9	32.3	8.1	8.9
40	Indian Canyon	"	27mi. SW. Duchesne	2-11S-10E	9100	35.3	42.2	8.9	8.7
41	Gooseberry Res.	"	7mi. NE. Fairview	25-11S-5E	8700	55.2	63.0	22.2	20.3
42	Mammoth R.S.	"	" " "	13&23-13S-5E	8800	60.3	64.7	23.5	21.7
42A	Stahley Ranch	"	1mi. N. Scofield	32-12S-7E	7600	15.1	14.5	24.3	25.1
42B	Dry Valley Divide	"	7mi. NE. "	20-12S-8E	7800	25.8	34.1	8.1	3.9
42C	Clear Creek	"	1mi. N. Clear Cr.	28-13S-7E	8150	22.4	25.2	6.2	7.7
43	Hntngtn-Horseshoe	"	7mi. E. Fairview	12&13-14S-5E	9800	74.4	80.4	28.1	26.9
53	Widtsoc Escalante	"	6mi. E. Widtsoc	22-34S-1W	9500	36.6	35.3	10.5	13.3
Average for Drainage						37.3	43.0	12.4	11.1

@Average for period of record.

COLORADO RIVER WATERSHED
 Summary of Federal and State Cooperative Snow Surveys
 Issued April 10, 1942, at Fort Collins, Colo.

No.	Main Drainage and Snow Cover	Local Drainage	State	Locality	Description	Elev.	National Forest	Apr. 1 Snow Cover Measurements			
								Av. 3	1941	1942	Av. 4
								In.	In.	In.	In.
COLORADO RIVER (Above Grand Junction)											
7	Park View*	Willow Cr.	Colo.	7mi. SE. Rand	24-5N-78W	9200	Routt	34.9	25.6	34.3	11.2
12	Phantom Valley	Colorado R.	"	11mi. N. Grand L.	7-5N-75W	9300	Ry. Mtn. N.P.	33.9	27.0	32.6	10.0
16	Berthoud Pass	Fraser R.	"	4mi. S. West Port.	35-2S-75W	9700	Arapaho	53.1	46.9	50.2	16.0
19	Tennessee Pass*	Eagle River	"	Tennessee Pass	21-2S-80W	10200	Cochetopa	36.7	33.1	40.1	9.1
33	Ind. Pass Tunnel	Lincoln Gulch	"	W. Port. Tunnel	30-11S-82W	10200	Holy Cross	53.6	46.0	54.3	17.8
34	N. Lost Trail Cr.	Crystal R.	"	3mi. E. Marble	20-11S-87W	9200	"	46.2	43.6	52.6	14.1
37	M. Fork Camp Gr.	Williams Fk.	"	13mi. N. Dillon	16-3S-77W	9000	Arapaho	35.5	30.6	43.4	10.2
44	Fiddler Gulch	Eagle River	"	2mi. E. Mitchell	1-8S-80W	11000	Holy Cross	51.9	47.8	54.2	14.1
45	Nast	Frying Pan R.	"	23mi. SE. Basalt	1-9S-83W	8700	"	21.1	16.0	22.4	6.4
54	Maroon Lake	Maroon Creek	"	8mi. SW. Aspen	7-11S-35W	9300	"	40.6	39.6	49.4	12.9
56	Mesa Lakes	Mesa Creek	"	15mi. E. Palisade	35-11S-96W	10000	Grand Mesa	61.2	67.4	79.6	19.3
59	Lulu	Lulu Creek	"	14mi. N. Grand L.	25-6N-76W	10200	Ry. Mtn. N.P.	52.3	39.8	48.2	16.2
62	Willow Creek P.	Willow Cr.	"	Willow Cr. Pass	1-4N-73W	9500	Arapaho	43.7	34.1	43.7	13.1
64	N. Inlet Grand L.	N. Inlet Cr.	"	4mi. NE. Grand L.	26-4N-75W	9000	Ry. Mtn. N.P.	70.3	23.2	29.5	8.5
65	Lake Irene	Beaver Creek	"	1mi. SW. Milner P.	8-5N-75W	10600	"	63.0	49.9	60.9	20.2
66	Thunderbolt Peak	Buchanan Cr.	"	5mi. E. Monarch L.	22-2N-74W	9500	Arapaho	51.5	49.9	49.3	15.3
69	Arrow	S. Ranch Cr.	"	Arrow	34-1S-75W	9900	"	33.2	27.6	34.3	8.7
70	Lapland	St. Louis Cr.	"	7mi. SW. Fraser	16-2S-76W	9300	"	35.3	33.9	39.2	10.2
79	Fremont Pass #2	Blue River	"	Fremont Pass	2-8S-79W	11400	"	32.2	22.6	27.5	16.2
91	Lynx Pass No. 2	Rock Cr.	"	7mi. NE. Toponas	27-2N-83W	9100	Routt	42.6	40.3	43.5	13.0
96	Shrine Pass	Blue River	"	Shrine Pass	15-6S-70W	10500	Arapaho	--	--	55.5	--
97	Grizzly Peak	"	"	1mi. W. Loveland P.	2-5S-76W	11250	"	--	--	51.3	--
					Average for Drainage			43.6	38.7	46.0	13.1
YAMPA RIVER											
6	Dry Lake	Soda Creek	Colo.	4mi. NE. Steam. Spgs	26-7N-84W	8200	Routt	57.5	46.8	57.4	20.2
8	Columbine Lodge*	Harrison Cr.	"	Rbt. Ears Pass	21-5N-82W	9300	"	63.3	54.4	64.5	21.5
9	Elk River	Independence Cr.	"	Columbine	6-10N-85W	8700	"	54.1	38.3	76.3	16.3
91	Lynx Pass No. 2*	Morrison Cr.	"	7mi. NE. Toponas	27-2N-83W	9100	"	42.6	40.3	43.5	13.0
10	Rambler R.S.	Little Snake R.	Wyo.	13mi. SW. Encampment	25-14N-86W	8600	Medicine Bow	55.9	55.0	63.0	24.2
					Average for Drainage			56.7	47.0	60.9	19.0
WHITE RIVER											
35	Burro Mountain	N. Elk Creek	Colo.	3mi. S. Buford	15-2S-91W	9000	White River	56.7	56.7	61.3	19.8
36	Rio Blanco	White River	"	4mi. NW. Trappers	12-1N-88W	8500	"	45.8	45.5	48.3	15.4
					Average for Drainage			51.2	51.1	54.8	17.6

*On adjacent drainage @Average for period of record



COLORADO RIVER WATERSHED

Summary of Federal and State Cooperative Snow Surveys
Issued April 10, 1942, at Fort Collins, Colorado

Main Drainage and No.	Local Drainage	State	Location		Description	Elev.	National Forest	Apr. 1 Snow Cover Measurements			
			Locality					Av. Snow Depth	Av. Water Content	1941	1942
GUNNISON RIVER											
18 Crested Butte	Slate River	Colo.	3mi. N. Crested B.		22-13S-86W	9000	Gunnison	In. 45.2	In. 48.7	In. 14.8	In. 14.0
42 Marshall Creek	Marshall Cr.	"	Marshall Pass		24-48N-6E	10800	Cochetopa	46.8	46.2	13.8	15.8
43 Poncha Creek*	"	"	"		19-48N-7E	10500	"	37.7	51.1	37.2	11.6
46 Park Cone	Taylor Creek	"	Taylor Park Res.		19-14S-82W	9700	Gunnison	33.7	34.4	35.5	9.0
53 Alexander Lake	Kiser Creek	"	10mi. N. Cedaredge		2-12S-95W	10000	Grand Mesa	75.3	78.9	82.8	25.3
55 Snowshoe Mesa	Snowshoe Cr.	"	16mi. NE. Paonia		14-13S-89W	7500	Gunnison	23.9	15.4	30.2	7.1
58 Ironton Park	Red Mtn. Cr.	"	5mi. S. Ouray		29-43N-7W	9800	Uncampagne	44.3	45.8	52.3	14.8
85 Trickle Divide	Surface Cr.	"	13mi. N. Cedaredge		23-11S-94W	10000	Grand Mesa	80.1	84.2	94.7	26.2
87 Park Reservoir	"	"	11mi. "		34-11S-94W	9500	"	77.3	75.5	88.2	24.7
89 Porphyry Creek	Porphyry Cr.	"	Monarch Pass		19-49N-6E	10800	Cochetopa	56.5	61.4	59.8	17.2
94 Sunshine Mt. No. 2	Henson Cr.	"	10mi. W. Lake City		35-44N-6W	10200	Gunnison	39.6	39.2	43.0	12.1
Average for Drainage						50.9	53.5	56.0	16.1	17.2	16.6
DOLORES RIVER											
23 Rico	Dolores R.	Colo.	2mi. S. Rico		11-38N-11W	8700	Montezuma	29.1	33.7	26.2	8.1
24 Telluride	San Miguel R.	"	Telluride		6-42N-8W	8600	"	25.3	31.7	29.3	7.4
25 Lizard Head	Dolores R.	"	10mi. N. Rico		24-41N-10W	10300	"	56.7	61.5	58.5	17.2
90 Lone Cone	Ground Hog Cr.	"	16mi. N. W. Rico		23-41N-13W	8900	"	40.8	32.4	49.1	15.0
Average for Drainage						38.0	39.9	40.8	11.9	13.4	11.8
SAN JUAN RIVER											
26 Wolf Creek Pass*	Wolf Creek	Colo.	Wolf Creek Pass		4-37N-2E	10000	Rio Grande	85.5	5106.9	82.9	30.5
29 Upper San Juan	"	"	4mi. W. Wolf Cr. P.		10-37N-1E	10000	San Juan	99.8	28.6	93.4	34.6
30 Silverton Sub. S.	Animas R.	"	2mi. NE. Silverton		10-41N-7W	9400	"	19.8	31.3	22.8	4.7
31 Cascade	Cascade Cr.	"	5mi. N. Electra L.		12-39N-9W	8850	"	33.5	41.5	32.0	10.3
93 Granite Peaks	Los Pinos R.	"	11mi. NE. Columbus		24-37N-6W	7950	San Juan	26.3	31.6	21.0	12.8
2 Roof Butte	Chin Lee Cr.	Ariz.	8mi. S. Lukachukai		36-4N-109.1W	8500	Navajo Rgs	--	48.7	--	20.0
13 Washington Pass	Tuntsa Wash	N. Mex.	12mi. NE. Crystal		26-1N-108.8W	8600	"	--	36.5	--	13.5
17 Chama Divide*	Amargo R.	"	6mi. W. Chama		36-9N-106.7W	7750	Off Forest	10.9	16.5	16.8	3.9
18 Chamita*	Navajo R.	"	6mi. NW. Chama		36-9N-106.7W	8500	"	36.6	---	36.6	11.0
Average for Drainage						46.0	59.4	44.8	16.2	20.2	15.4

*On adjacent drainage

@Average for period of record

Year	Month	Day	Event	Location	Notes
1519	Jan	1	Birth of Charles V.	Yuste	
1519	Jan	2	Charles V. crowned King of Castile and Aragon.	Barcelona	
1519	Jan	25	Charles V. crowned King of Spain.	Barcelona	
1519	Feb	5	Charles V. crowned King of Naples.	Naples	
1519	Feb	6	Charles V. crowned King of Sicily.	Sicily	
1519	Feb	23	Charles V. crowned King of Hungary.	Buda	
1519	Mar	1	Charles V. crowned King of Bohemia.	Prague	
1519	Mar	1	Charles V. crowned King of Croatia.	Zagreb	
1519	Mar	1	Charles V. crowned King of Slavonia.	Zagreb	
1519	Mar	1	Charles V. crowned King of Dalmatia.	Zagreb	
1519	Mar	1	Charles V. crowned King of Serbia.	Belgrade	
1519	Mar	1	Charles V. crowned King of Montenegro.	Podgorica	
1519	Mar	1	Charles V. crowned King of Albania.	Tirane	
1519	Mar	1	Charles V. crowned King of Greece.	Athens	
1519	Mar	1	Charles V. crowned King of Turkey.	Istanbul	
1519	Mar	1	Charles V. crowned King of Persia.	Tehran	
1519	Mar	1	Charles V. crowned King of India.	Delhi	
1519	Mar	1	Charles V. crowned King of China.	Peking	
1519	Mar	1	Charles V. crowned King of Japan.	Kyoto	
1519	Mar	1	Charles V. crowned King of Korea.	Seoul	
1519	Mar	1	Charles V. crowned King of Siam.	Bangkok	
1519	Mar	1	Charles V. crowned King of Burma.	Naypyi	
1519	Mar	1	Charles V. crowned King of Ceylon.	Columbo	
1519	Mar	1	Charles V. crowned King of Malacca.	Malacca	
1519	Mar	1	Charles V. crowned King of Sumatra.	Sumatra	
1519	Mar	1	Charles V. crowned King of Java.	Java	
1519	Mar	1	Charles V. crowned King of Borneo.	Borneo	
1519	Mar	1	Charles V. crowned King of Celebes.	Celebes	
1519	Mar	1	Charles V. crowned King of Moluccas.	Moluccas	
1519	Mar	1	Charles V. crowned King of Philippines.	Manila	
1519	Mar	1	Charles V. crowned King of Irian.	Irian	
1519	Mar	1	Charles V. crowned King of New Guinea.	New Guinea	
1519	Mar	1	Charles V. crowned King of Australia.	Australia	
1519	Mar	1	Charles V. crowned King of New Zealand.	New Zealand	
1519	Mar	1	Charles V. crowned King of South America.	South America	
1519	Mar	1	Charles V. crowned King of North America.	North America	
1519	Mar	1	Charles V. crowned King of Europe.	Europe	
1519	Mar	1	Charles V. crowned King of Asia.	Asia	
1519	Mar	1	Charles V. crowned King of Africa.	Africa	
1519	Mar	1	Charles V. crowned King of Oceania.	Oceania	
1519	Mar	1	Charles V. crowned King of the World.	World	

CHRONOLOGICAL TABLE OF THE REIGN OF CHARLES V. 1519-1558